UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/402,646	01/10/2000	MAURI TIKKA	PM264179	6243

909 7590 03/24/2004

PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER	
PEREZ GUTIERREZ, RAFAEL	
ART UNIT	**PAPER NUMBER**
2686	14

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/402,646	Tikka	
	Examiner	Art Unit	
	Rafael Perez-Gutierrez	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 21, 2003 has been entered. **Claims 1-9** are still pending in the present application.

Claim Objections

2. **Claim 2** is objected to because of the following informality: On **line 2** of **claim 2**, delete "control" before "regulation". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

> A person shall be entitled to a patent unless -- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the Applicant for a patent.

Claims 1, 2, and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by **Suvanen et al. (WO 96/42142)**.

Consider **claim 1**, Suvanen et al. clearly show and disclose a method for controlling the capacity (load) in a mobile communication system in a system in which at least one mobile station (MS) includes means for utilizing discontinuous transmission (combination of speech encoder 22, TXDTX 23, and voice activity detector (VAD) 25) (figure 2 and page 13 lines 11-19), comprising:

transmitting a command (control signal) via a radio path to said at least one MS in order to regulate the parameters indicating how discontinuous transmission should be implemented by said at least one MS (when Suvanen et al. calculates parameters for background noise that are used for updating the noise parameters at the receiving side; read in accordance with Applicant's specification) (figure 2 and page 13 line 20 - page 15 line 30), and;

regulating, by regulation means (combination of TXDTX 23 and voice activity detector (VAD) 25), of said at least one MS as a response to said command (control signal), parameters indicating how discontinuous transmission should be implemented in such a manner that at least one MS transmits telecommunication signals to the system more seldom or more often (as explained above, by calculating parameters for background noise that are used for updating the noise parameters at the receiving side) (figure 2 and page 13 line 20 - page 15 line 30).

Consider **claim 2**, and **as applied to claim 1 above**, Suvanen et al. further disclose that the command (control signal) is provided to the control regulation means (combination of TXDTX 23 and voice activity detector (VAD) 25) for regulating at least those parameters upon which the at least one MS can discriminate between speech conveyed to a microphone 21 and background noise in such a manner that the at least one MS interprets the noise arriving at the

microphone 21 as background noise often (figure 2 and page 13 line 20 - page 15 line 30).

Consider **claim 9**, Suvanen et al. clearly show and disclose a mobile station (MS) comprising:

a radio unit 24 (transmission means and reception means) for receiving and transmitting telecommunications signals via a radio path (figure 2, page 13 line 33 - page 14 line 3, and page 15 line 32 - page 16 line 2);

a microphone 21 (user interface) for receiving an acoustic sound (e.g., voice signals) (figure 2, page 13 lines 23-25, and page 14 lines 6-9); and

control means (combination of speech encoder 22, TXDTX 23, and voice activity detector (VAD) 25) for utilizing discontinuous transmission, whereby the control means (combination of speech encoder 22, TXDTX 23, and voice activity detector (VAD) 25) comprises a voice activity detector (VAD) 25 (signal processing means) for processing the voice signals received through the microphone 21 (user interface) by utilizing parameters, which indicate how discontinuous transmission should be implemented, and which are stored in the MS in order to detect speech from the voice signals received through the microphone 21 (user interface) (page 13 line 23 - page 15 line 17);

detection means (not shown) for detecting a command (predetermined control signal) received by the radio unit 24 (transmission means and reception means) via the radio path (figure 2 and page 14 lines 4 and 5); and

regulation means (combination of TXDTX 23 and voice activity detector (VAD) 25), responsive to the detection means (not shown), for changing said parameters which indicate how

discontinuous transmission should be implemented and which are utilized in speech detection in such a manner that the voice activity detector (VAD) 25 (signal processing means) interpret the voice signals received through the microphone 21 (user interface) as background noise more seldom or more often (when Suvanen et al. calculates parameters for background noise that are used for updating the noise parameters at the receiving side; read in accordance with Applicant's specification) (figure 2 and page 13 line 20 - page 15 line 30).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 3-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Suvanen et**

al. (WO 96/42142) in view of **Kokko et al. (U.S. Patent # 5,790,534)**.

Consider **claim 3**, and **as applied to claims 1 and 2 above**, Suvanen et al. suggest that the interference level (traffic load) in the radio path is monitored, however, they do not specifically disclose that the traffic load in different parts of the mobile communication system is monitored and said command (control signal) is transmitted to certain MSs or MSs in a certain area, when the traffic load in some part of the system exceeds a predetermined limit, whereby said certain MSs or MSs in a certain area that have received the command (control signal) regulate their parameters in such a manner that they transmit telecommunication signals to the other parts of the system more seldom.

Kokko et al. clearly show and disclose a CDMA cellular system (mobile communication system) and a load control method for said system in which the traffic load in different parts of the system is monitored, by a load monitor 14B (figure 1), and a transmission prohibition (control signal) is transmitted to certain mobile stations 12 (MSs) or MSs in a certain area, when the traffic load in some part of the system exceeds a predetermined limit, whereby said MSs that have received the transmission prohibition (control signal) regulate their parameters related to discontinuous transmission in such a manner that they transmit telecommunication signals to the other parts of the system more seldom than before (column 6 lines 24-43, column 6 line 65 - column 7 line 7, column 7 line 48 - column 8 line 7, and column 10 lines 52-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the load monitor 14B taught by Kokko et al. in the system and method of Suvanen et al. in order to control the load of the system in accordance with the

traffic load in different parts of the system. The motivation to do so would have been to optimized the load of the system and to efficiently manage the resources available in the system.

Consider **claim 4**, and **as applied to claims 1, 3, and 9 above**, Suvanen et al. further show and disclose that the mobile communication system comprises:

a mobile switching centre (exchange) (MSC) (figure 1);

base station systems (BSS) in data transmission connection to the MSC (figure 1);

mobile stations MSs in a radio connection to the base stations and comprising means for utilizing discontinuous transmission (combination of speech encoder 22, TXDTX 23, and voice activity detector (VAD) 25) (figures 1 and 2); and

regulation means (combination of TXDTX 23 and voice activity detector (VAD) 25) for regulating parameters of the mobile stations indicating how discontinuous transmission should be implemented in response to a command (control signal) in such a manner that said MSs transmit telecommunication signals to the system more seldom or more often (by calculating parameters for background noise that are used for updating the noise parameters at the receiving side) (figures 1 and 2 and page 13 line 20 - page 15 line 30).

However, Suvanen et al. do not specifically disclose that the system comprises monitoring means for monitoring the load in different parts of the system and that said command (control signal) is transmitted by the BSS to certain MSs or MSs in a certain area, when the monitoring means indicate that the traffic load in some part of the system exceeds a predetermined limit.

Kokko et al. clearly show and disclose a CDMA cellular system (mobile communication

system) in which the traffic load in different parts of the system is monitored, by a load monitor 14B (monitoring means) (figure 1), and a transmission prohibition (control signal) is transmitted by a base station 14, to certain MSs or MSs in a certain area, when the traffic load in some part of the system exceeds a predetermined limit (column 6 lines 24-43, column 6 line 65 - column 7 line 7, column 7 line 48 - column 8 line 7, and column 10 lines 52-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the load monitor 14B taught by Kokko et al. in the system and of Suvanen et al. in order to control the load of the system in accordance with the traffic load in different parts of the system. The motivation to do so would have been to optimized the load of the system and to efficiently manage the resources available in the system.

Consider **claims 5-7**, and **as applied to claim 4 above**, Kokko et al. also disclose that the load monitor 14B (monitoring means) (figure 1) is arranged to monitor the amount of available resources (free traffic capacity) of either a certain base station 14 or a packet switched data transmission connection between at least one base station 14 and a MSC, via base station controller 16, belonging to the system, whereby the transmission prohibition (control signal) is transmitted by the base station 14, to all MSs from a which a traffic connection is in progress via said base station 14 when the amount of available resources is below the predetermined limit value (column 6 lines 24-43, column 6 line 65 - column 7 line 7, column 7 line 48 - column 8 line 7, and column 10 lines 52-67).

Consider **claim 8**, and **as applied to claims 4-7 above**, Kokko et al. further disclose that the quality of traffic channels of a certain base station 14 is monitored and the transmission

prohibition (control signal) is transmitted by the base station 14, to all MSs from a which a traffic connection is in progress via said base station 14 when the quality of the traffic channels is below a predetermined limit (column 7 line 48 - column 8 line 7).

Response to Arguments

6. Applicant's arguments filed on November 21, 2003 have been fully considered but they are not persuasive.

In the present application, Applicant basically argues, on page 6 second paragraph of the remarks, that Suvanen et al. fails to teach or suggest the use of the claim-recited control signal which affects parameters regarding how the DTX should be implemented (i.e., whether signals should be transmitted more seldom or more often).

The Examiner respectfully disagrees with Applicant's argument because the current claim language is only supported in Applicant's specification, on page 8 lines 5-13 and on page 9 lines 1-9 as Applicant argues, by regulating parameters related to discontinuous transmission (emphasis added). It appears that Applicant is reading these citations as implicitly supporting how the DTX should be implemented, consequently, the Examiner is interpreting the current claim language as regulating parameters related to discontinuous transmission which is in accordance with Applicant's specification.

Therefore, and following the above reasoning, Suvanen et al. clearly disclose regulating parameters related to discontinuous transmission (when they calculate parameters for

background noise that are used for updating the noise parameters at the receiving side). Based upon such teaching, and given the broadest reasonable interpretation in accordance with Applicant's specification to the current claim language, Suvanen et al. regulates parameters regarding how discontinuous transmission should be implemented. Consequently, the rejection based upon Suvanen et al. is maintained by the Examiner.

Conclusion

7. Any response to this Office Action should be **faxed to** (703) 872-9306 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.

Rafael Perez-Gutierrez
R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER
March 20, 2004